

CLAIM AMENDMENTS

1. (Currently amended.) A semiconductor bare chip having an integrated circuit formed on front surface thereof and a magnetic loss film formed on the back surface of said semiconductor bare chip, wherein said magnetic loss film is a granular magnetic thin film and is composed of M-X-Y, where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and said M component is present in an amount effective for said film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component.

2. (Cancelled.)

3. (Previously presented.) The semiconductor bare chip according to claim 1, wherein said granular magnetic thin film is a sputtered film formed by a sputtering method.

4. (Previously presented.) The semiconductor bare chip according to claim 1, wherein said granular magnetic thin film is a vapor-deposited film formed by a vapor deposition method.

5. (Currently amended.) A semiconductor wafer having an integrated circuit formed on front surface thereof, and wherein a magnetic loss film is formed on the back surface of said semiconductor wafer, and wherein said magnetic loss film is a granular magnetic thin film and is composed of M-X-Y, where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and said M component is present in an amount effective for said film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component.

6. (Cancelled.)

7. (Previously presented.) The semiconductor wafer according to claim 5, wherein said granular magnetic thin film is a sputtered film formed by a sputtering method.

8. (Previously presented.) The semiconductor wafer according to claim 5, wherein said granular magnetic thin film is a vapor-deposited film formed by a vapor deposition method.

9. (Currently amended.) A semiconductor substrate having a semiconductor wafer and a magnetic loss member formed in a part thereof on the semiconductor wafer, wherein said magnetic loss member is formed in a prescribed pattern ~~in vicinity of the~~ on the back surface on one side of said semiconductor substrate~~[[; and]]~~, the front surface side of the semiconductor substrate having an integrated circuit thereon, said magnetic loss member and semiconductor substrate region on said surface are uniformly covered with an insulating film, and said magnetic loss member has a granular structure and is composed of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, Y is any one of, or a mixture of, F, N, and O, and said M component is present in an amount effective for said film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component.

10. (Currently amended.) A semiconductor substrate having a magnetic loss member formed over substantially entire surface of said semiconductor substrate including the back surface wherein said magnetic loss member has a granular structure, said magnetic loss member is composed of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, Y is any one of, or a mixture of, F, N, and O, and M component is present in a concentration range exhibiting a saturation

magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component.

11. (Original.) The semiconductor substrate according to claim 9, wherein said prescribed pattern is formed by said magnetic loss member and is a striped pattern.

12. (Original.) The semiconductor substrate according to claim 9, wherein said prescribed pattern is formed by said magnetic loss member and is a lattice pattern.

13. (Original.) The semiconductor substrate according to claim 9, wherein said prescribed pattern is formed by said magnetic loss member and is an island pattern.

14. (Original.) The semiconductor substrate according to claim 9, wherein said insulating film comprises at least one material selected from a group consisting of silicon oxide, silicon nitride, and silicon nitride oxide.

15. (Currently amended.) A semiconductor substrate having a plurality of magnetic loss members formed in a part thereof, wherein said magnetic loss members are formed in a prescribed pattern, each of said magnetic loss members being formed on the back surface of a semiconductor device and being formed on an inside surface of each semiconductor device region which is separated by dividing said semiconductor substrate, and has a granular structure, and is also composed of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, Y is any one of, or a mixture of, F, N, and O, and M component is present in a concentration range exhibiting a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component.

16. (Currently amended.) A semiconductor substrate formed by joining a first semiconductor substrate member and a second semiconductor substrate

member together, and having a magnetic loss member formed in a part thereof, wherein at least one semiconductor substrate member of said first semiconductor substrate member and said second semiconductor substrate member is provided with [[a]] at least one trench, which is formed on the surface thereof that is joined together; and said magnetic loss member is embedded inside said at least one trench, and on the back surface of a semiconductor device, and has a granular structure, and is also composed of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, Y is any one of, or a mixture of, F, N, and O, and M component is present in a concentration range exhibiting a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component

17. (Original.) The semiconductor substrate according to claim 16, wherein said trench comprises a plurality of trench portions formed in a prescribed pattern, each of said trench portions being formed on an inside surface of each semiconductor device region which is separated by dividing said semiconductor device.

18. (Cancelled.)

19. (Previously presented.) The semiconductor substrate according to claim 9 wherein the semiconductor wafer consists of silicon.

20. (Previously presented.) The semiconductor substrate according to claim 9, wherein the semiconductor wafer consists of GaAs.

21. (Previously presented.) A semiconductor substrate according to claim 9, comprising a plurality of semiconductor devices, wherein each one of said plurality of the semiconductor devices is repeatedly formed in a prescribed pattern on the semiconductor substrate, and comprises at least one unit region in which said magnetic loss member is formed.

22. (Withdrawn.) A semiconductor substrate manufacturing method comprising a process for forming a layer comprising a magnetic loss member in at least a part of said semiconductor substrate.

23. (Withdrawn.) The semiconductor substrate manufacturing method according to claim 22, wherein said magnetic loss member is composed of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, and Y is any one of, or a mixture of, F, N, and O.

24. (Withdrawn.) The semiconductor substrate manufacturing method according to claim 22, wherein material of the semiconductor substrate, said first semiconductor substrate member, and said second semiconductor substrate member, respectively, consists of silicon.

25. (Withdrawn.) The semiconductor substrate manufacturing method according to claim 9, wherein material of the semiconductor substrate, said first semiconductor substrate member, and said second semiconductor substrate member, respectively, consists of gallium-arsenic.

26. (Withdrawn.) The semiconductor substrate manufacturing method according to claim 22, comprising: a first process for forming said magnetic loss member or members on the surface on one side of said semiconductor substrate, in a prescribed pattern, with a prescribed film thickness; and a second process for uniformly coating entire surface of said semiconductor substrate, inclusive of said magnetic loss member or members, with an insulating film, subsequent to said first process.

27. (Withdrawn.) The semiconductor substrate manufacturing method according to claim 22, comprising fabrication of a semiconductor substrate by forming a trench structure or structures in at least said first semiconductor substrate member, and attaching said second semiconductor substrate member to said first semiconductor substrate member after forming said magnetic loss

member or members inside said trench structure or structures; said manufacturing method comprising the steps of: forming an insulating film pattern on said first semiconductor substrate member; forming said trench structure or structures to a prescribed depth by subjecting said first semiconductor substrate member to an etching process after forming said insulating film pattern; removing said insulating film pattern from said first semiconductor substrate member after forming said trench structure or structures; uniformly forming a film of said magnetic loss member on said first semiconductor substrate member after removing said insulating film pattern; subjecting the entire surface of said first semiconductor substrate member to a polishing treatment so that substrate surface in the regions other than those of said trench structure or structures is exposed, after forming the film of magnetic loss member; and bringing said second semiconductor substrate member into tight contact with said first semiconductor substrate member subjected to said polishing treatment and performing an adhesive joining process.

28. (Withdrawn.) The semiconductor substrate manufacturing method according to claim 22, comprising fabrication of a semiconductor substrate by forming a trench structure or structures in at least said first semiconductor substrate member, and joining said second semiconductor substrate member to said first semiconductor substrate member after forming said magnetic loss member or members inside said trench structure or structures; said manufacturing method comprising the steps of: forming an insulating film pattern on said first semiconductor substrate member; forming said trench structure or structures to a prescribed depth by subjecting said first semiconductor substrate member to an etching process, after forming said insulating film pattern; removing said insulating film pattern from said first semiconductor substrate member after forming said trench structure or structures; uniformly forming a film of said magnetic loss member on said first semiconductor substrate member after

removing said insulating film pattern; subjecting the entire surface of said first semiconductor substrate member to a polishing treatment so that substrate surface in the regions other than those of said trench structure or structures is exposed, after forming said film of magnetic loss member; thermally oxidizing the entire surface of said second semiconductor substrate member, in which said trench structure or structures are not formed, that opposes said first semiconductor substrate member; and joining said second semiconductor substrate member, the opposing surface of which was thermally oxidized, to said first semiconductor substrate member, by means of electrostatic bonding.

29. (Previously presented.) An electromagnetic noise suppression body comprising an electrically conductive soft magnetic thin film, wherein said soft magnetic thin film is also finely divided into configuring units sufficiently small relative to wavelength of electromagnetic noise so that conduction of DC current between those configuring units is interrupted, and said soft magnetic thin film is also composed of a composition of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, Y is any one of, or a mixture of, F, N, and O and has a granular structure, and M component is present in a concentration range exhibiting a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component.

30. (Previously presented.) The electromagnetic noise suppression body according to claim 29, wherein each of said configuring units has an aspect ratio of 10 or greater.

31. (Cancelled.)

32. (Withdrawn.) A electromagnetic noise suppression method, wherein conductive electromagnetic noise is suppressed by forming said electromagnetic noise suppression body immediately above a microstrip line or signal transmission line similar thereto.

33. (Withdrawn.) The electromagnetic noise suppression method according to claim 32, wherein said electromagnetic noise suppression body is attached so that the axis of hard magnetization thereof is substantially parallel to the width direction of said microstrip line or signal transmission line similar thereto.

34. (Withdrawn.) The electromagnetic noise suppression method according to claim 32, wherein said soft magnetic thin film is composed of a composition of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, and Y is any one of, or a mixture of, F, N, and O, and has a granular structure.

35. (Previously presented.) An electromagnetic noise suppression body for suppressing conductive electromagnetic noise, comprising an electrically conductive soft magnetic thin film attached in vicinity above a microstrip line or signal transmission line similar thereto, wherein said electrically conductive soft magnetic thin film is of a shape having a width that is substantially equivalent to or narrower than line width of said microstrip line or signal transmission line similar thereto, and has a granular structure and is also composed of a composition of M-X-Y, where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and the M component is present in an amount effective to cause said film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component.

36. (Original.) The electromagnetic noise suppression body according to claim 35, wherein said electromagnetic noise suppression body is attached so that the axis of hard magnetization thereof is substantially parallel to the width direction of said microstrip line or signal transmission line similar thereto.

37. (Original.) The electromagnetic noise suppression body according to claim 35, wherein said soft magnetic thin film of a shape having a width that is

substantially equivalent to or narrower than line width of said microstrip line or analogous signal transmission line has an aspect ratio in width direction of 10 or greater.

38. (Cancelled.)

39. (Withdrawn.) A conductive noise suppression method for suppressing conductive electromagnetic noise by forming an electromagnetic noise suppression body comprising an electrically conductive soft magnetic thin film in vicinity above a microstrip line or signal transmission line similar thereto, wherein said electrically conductive soft magnetic thin film is shaped such that a width thereof is substantially equivalent to or narrower than line width of said microstrip line or signal transmission line similar thereto.

40. (Withdrawn.) The electromagnetic noise suppression method according to claim 39, wherein said electromagnetic noise suppression body is attached so that the axis of hard magnetization thereof is substantially parallel to the width direction of said microstrip line or signal transmission line similar thereto.

41. (Withdrawn.) The electromagnetic noise suppression method according to claim 39, wherein said soft magnetic thin film has a shape having a width that is substantially equivalent to or narrower than line width of said microstrip line or analogous signal transmission line and has an aspect ratio is 10 or greater in width direction.

42. (Withdrawn.) The electromagnetic noise suppression method according to claim 39, wherein said soft magnetic thin film is composed of a composition of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, and Y is any one of, or a mixture of, F, N, and O, and has a granular structure.

43. (Currently amended.) The semiconductor substrate according to claim 16, wherein ~~both~~ of said first semiconductor substrate member and said second semiconductor substrate member consist[[s]] essentially of silicon.

44. (Previously presented.) The semiconductor substrate according to claim 16, wherein said first semiconductor substrate member and said second semiconductor substrate member consist essentially of GaAs.